藏在麦克斯韦方程组中的万有引力常数

黄山

(芜湖职业技术学院， 安徽， 芜湖，241003)

摘要：万有引力常数可能就藏在麦克斯韦方程组里，那么怎么从麦克斯韦方程组中找出万有引力常数，这可能需要一点点儿技巧和巧合。

关键词：电子静止质量，麦克斯韦方程组，质子静止质量，万有引力常数。

上次拓展完成新的麦克斯韦方程组以后，我就在想，那万有引力呢，电磁有库仑定律，然后有麦克斯韦方程组，然后有波动方程，那么类比的话，万有引力应该有，万有引力定律，然后有万有引力方程组（包含狄拉克方程），然后有爱因斯坦方程组。也就是说，万有引力方程组应该也有一个中间状态。然后我们已经知道，$(G_N) = \frac{(h)}{(m_e)(R_\infty)}$， 并且现在已经有很多和普朗克常数有关系的方程了，那么我们再找到和$(m_e)(R_\infty)$有关系的东西，再和普朗克常数联系在一起，再拼拼凑凑，似乎就可以了。那这个又代表什么呢，似乎可以理解成光谱、辐射、热、甚至是磁。

以上都是废话，这几天白费功夫了，现在我发现这个思路是错的，后来我想到，可能根本就没有中间状态的万有引力方程组，也可能根本就没有"万有引力常数"。为什么这么说，因为我在上面思路推导失败以后，又重新联系我发现的麦克斯韦方程组 V3.0 和自洽的数值等式群组，然后我发现，新的麦克斯韦方程组就可以直接找出电子静止质量和质子静止质量和万有引力常数。

这个中间我再插一下，为什么氢原子的基态能量两种写法有差值，以及为什么自洽的数值等式群组中数值有误差。氢原子的基态能量可以用这个公式表示，$\frac{(h)(R_\infty)(c)}{(e_o)}$，或者，$(R_\infty)(\mu_o)$ 。这其中有差值是因为，$6.022 = \frac{1}{1.660}$和1.6726有差值，再加上测量误差，所以我在保证它是自洽的基础上，就容忍数值左右浮动了。有实验条件的，可以考虑再做一个基础常数测量，用到摩尔的把它换成以1.6726为基础再试试看。

以下是正文，下面是麦克斯韦方程组 V3.0 的三种写法，

$$
\begin{cases}
1,\left(\nabla\cdot\mathbf{E}\right) = \frac{1}{(\varepsilon_o)} * (\varphi_{\mathbf{B}}) \ , \\
2,(\nabla\times\mathbf{E}) = -\frac{1}{(\varepsilon_o)} * (\mathbf{J_B}) - \frac{\partial\mathbf{B}}{\partial t} \ , \\
3,\left(\nabla\cdot\mathbf{B}\right) = -(\mu_o) * (\varphi_{\mathbf{E}}) \ , \\
4,(\nabla\times\mathbf{B}) = (\mu_o) * (\mathbf{J_E}) + \frac{1}{(c)^2} * \frac{\partial\mathbf{E}}{\partial t} \ , \\
5,(i) * (\mathbf{E}) = (c) * (\mathbf{B}),(i) * (\mathbf{J_E}) = (c) * (\mathbf{J_B}) \ , \ (i) * (\varphi_{\mathbf{E}}) = (c) * (\varphi_{\mathbf{B}}) \ ,
\end{cases}
$$

$$\begin{cases} \mathbf{1},(\nabla\cdot\mathbf{E}) = \dfrac{(\mathrm{i})}{(\varepsilon_{\mathbf{o}})(\mathrm{c})} * \left(\varphi_{\mathbf{E}}\right) , \\ \mathbf{2},(\nabla\times\mathbf{E}) = -\dfrac{(\mathrm{i})}{(\varepsilon_{\mathbf{o}})(\mathrm{c})} * (\mathbf{J_E}) - \dfrac{(\mathrm{i})}{(\mathrm{c})} * \dfrac{\partial\mathbf{E}}{\partial \mathrm{t}} , \\ \mathbf{3},(\nabla\cdot\mathbf{B}) = \dfrac{(\mathrm{i})}{(\varepsilon_{\mathbf{o}})(\mathrm{c})} * \left(\varphi_{\mathbf{B}}\right) , \\ 4,(\nabla\times\mathbf{B}) = -\dfrac{(\mathrm{i})}{(\varepsilon_{\mathbf{o}})(\mathrm{c})} * (\mathbf{J_B}) - \dfrac{(\mathrm{i})}{(\mathrm{c})} * \dfrac{\partial\mathbf{B}}{\partial \mathrm{t}} , \\ 5,(\mathrm{i}) * (\mathbf{E}) = (\mathrm{c}) * (\mathbf{B}),(\mathrm{i}) * (\mathbf{J_E}) = (\mathrm{c}) * (\mathbf{J_B}) , (\mathrm{i}) * \left(\varphi_{\mathbf{E}}\right) = (\mathrm{c}) * \left(\varphi_{\mathbf{B}}\right) , \end{cases}$$

$$\begin{cases} 1,(\nabla\cdot\mathbf{E}) = \dfrac{1}{(\varepsilon_{\mathrm{o}})} * (\varphi_{\mathbf{B}}) , \\ 2,(\nabla\times\mathbf{E}) = -\dfrac{\partial\mathbf{B}}{\partial \mathrm{t}} , \\ 3,(\nabla\cdot\mathbf{B}) = 0 , \\ 4,(\nabla\times\mathbf{B}) = (\mu_{\mathrm{o}}) * (\mathbf{J_E}) + \dfrac{1}{(\mathrm{c})^2} * \dfrac{\partial\mathbf{E}}{\partial \mathrm{t}} , \end{cases}$$

然后下面是自洽的数值等式群组，

$$\begin{cases} 1,\dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{a_0})} = 2\pi(\mathrm{m_e})[\alpha_{\mathrm{o}}](\mathrm{c}) , \\ 2,\dfrac{(\mathrm{e_o})(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = (\mathrm{c}) , \\ 3,\dfrac{1}{2}(\mathrm{m_e})[\alpha_{\mathrm{o}}]^2(\mathrm{c})^2 = \dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{2\pi(\mathrm{R_\infty})} , \\ 4,\dfrac{(\mathrm{e_o})^2(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = \dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{K_B})} , \\ 5,2\pi(\mu_{\mathrm{B}})(\mathrm{m_e}) = (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N}) * (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N}) , \\ 6,\dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{(\mathrm{r_{atom}})} = \dfrac{[\alpha_{\mathrm{o}}](\mathrm{c})(\mathrm{r_e})(2\pi)^4}{(\mathrm{a_0})} , \\ 7,\dfrac{(\mathrm{e_o})}{2(\mathrm{r_{atom}})} = (\mathrm{R_\infty})^3(\mathrm{a_0})^3(2)^3(2\pi)^6 , \\ 8,\dfrac{(\mathrm{m_e})[\alpha_{\mathrm{o}}]^2(\mathrm{c})^2}{2(\mathrm{r_e})} = (\mathrm{c})2(\mathrm{r_{atom}})(2\pi)^4 , \\ 9,\dfrac{(\mathrm{m_{atom}})(\mathrm{G_N})}{(\mathrm{a_0})^2} = (2\pi)^3(\mathrm{e_o}) , \end{cases}$$

那么上面两个联系在一起，关于电子静止质量和质子静止质量和万有引力常数，我们就可以有，

$$
\begin{cases}
1,(2\pi)^3\left(\varphi_{\mathbf{B}}\right)^2(a_0) = (2\pi)^3(i)\left(\varphi_{\mathbf{E}}\right)(m_e)(R_\infty)(r_e)\ , \\
2,(2\pi)^2\left(\varphi_{\mathbf{B}}\right)^2 = (i)\left(\varphi_{\mathbf{E}}\right)(m_{atom})(4\pi)\ , \\
3,(2\pi)^3\left(\varphi_{\mathbf{B}}\right)(a_0)^2 = (m_{atom})(G_N)\ ,
\end{cases}
$$

那么，怎么从麦克斯韦方程组 V3.0 联系到这三个等式，我不知道。我只知道我刚把 2 和 3 凑出来的时候，我就突然感觉这个很奇怪，但是感觉又很“完整”，所以，我就开始怀疑有没有中间状态的万有引力方程组这个东西。现在这些东西是联合在一起逆推出来的，我只是觉得很漂亮，所以就分享出来了，至于其中的解释，各位大神去猜吧，然后这三个等式又可以延伸为，

$$
\begin{cases}
4,(i)\left(\varphi_{\mathbf{E}}\right)(m_{atom}) = (4\pi)(2\pi)^4\left(\varphi_{\mathbf{B}}\right)(R_\infty)(r_e)(r_{atom})\ , \\
5,(2\pi)\left(\varphi_{\mathbf{B}}\right)(K_B) = (4\pi)(2\pi)^2(a_0)^2(m_e)(R_\infty)\ , \\
6,(2\pi)^2(i)\left(\varphi_{\mathbf{E}}\right)(r_e)(K_B) = (4\pi)(2\pi)^3\left(\varphi_{\mathbf{B}}\right)(a_0)^3\ , \\
7,\left(\varphi_{\mathbf{B}}\right)^2 = (4\pi)^2(2\pi)^2\left(\varphi_{\mathbf{B}}\right)(R_\infty)(r_e)(r_{atom})\ , \\
8,(i)\left(\varphi_{\mathbf{E}}\right)(m_e) = (4\pi)^2(2\pi)^2\left(\varphi_{\mathbf{B}}\right)(a_0)(r_{atom})\ , \\
9,(2\pi)\left(\varphi_{\mathbf{B}}\right) = (4\pi)(2\pi)^2(a_0)^2(g_z)\ , \\
10,(2\pi)\left(\varphi_{\mathbf{B}}\right)(R_\infty) = (a_0)(g_w)^2(g_z)^2\ , \\
11,(2\pi)\left(\varphi_{\mathbf{B}}\right)(R_\infty)(g_s) = (a_0)(g_w)^3\ , \\
12,\left(\varphi_{\mathbf{E}}\right)^2(g_s) + \left(\varphi_{\mathbf{B}}\right)(g_w)(g_e)^3 = 0\ ,
\end{cases}
$$

而这些，又是和$(e_o)(c) = \frac{(h)}{(K_B)} = \frac{(h)(c)^2}{(\mu_o)} = \frac{(G_N)(m_e)(R_\infty)}{(K_B)} = (g_z)(G_N) = \frac{(e_o)^2(R_\infty)}{4\pi(\varepsilon_0)(a_0)}$是等价的。

这么漂亮，怎么可能会是错的呢。那么，我们假设它是对的，我们就可以发现，我们只需要知道麦克斯韦方程组和它们之间的一点点儿联系，我们就可以把它们算出来。那么，万有引力常数就可以有，$(2\pi)\left(\varphi_{\mathbf{B}}\right)(G_N) = (4\pi)(2\pi)^2(i)\left(\varphi_{\mathbf{E}}\right)(a_0)^2$。质子静止质量和电子静止质量和电荷就可以有，

$$
\begin{cases}
1,(2\pi)^2\left(\varphi_{\mathbf{B}}\right)^2 = (i)\left(\varphi_{\mathbf{E}}\right)(m_{atom})(4\pi)\ , \\
2,(i)\left(\varphi_{\mathbf{E}}\right)(m_e)(R_\infty) = (4\pi)^2(2\pi)^2\left(\varphi_{\mathbf{B}}\right)(R_\infty)(a_0)(r_{atom})\ , \\
3,\left(\varphi_{\mathbf{B}}\right)^2 = (4\pi)^2(2\pi)^2\left(\varphi_{\mathbf{B}}\right)(R_\infty)(r_e)(r_{atom})\ ,
\end{cases}
$$

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The Constant of Gravitation Hidden in the Maxwell Equation System

HuangShan

(Wuhu Institute of Technology, China, Wuhu, 241003)

Abstract: The constant of universal gravitation may be hidden in Maxwell's equations, so how to find the constant of universal gravitation from Maxwell's equations may require a little skill and coincidence.

Key words: Electron static mass, Maxwell equations, proton static mass, universal gravitation constant.

I thought that there may be no universal gravitation equations in the intermediate state at all, or there may be no "universal gravitation constant" at all. Why do you say that? After the above train of thought failed to deduce, I contacted Maxwell equations V3.0 again and self consistent numerical equations, and then I found that the new Maxwell equations can directly find the electron static mass, proton static mass and universal gravitation constant.

In the middle, I'll insert why there is a difference between the two methods of writing the ground state energy of hydrogen atom, and why there are errors in the values in the self consistent numerical equation group. The ground state energy of hydrogen atom can be expressed by this formula, $\frac{(\mathrm{h})(\mathrm{R}_{\infty})(\mathrm{c})}{(\mathrm{e}_{\mathrm{o}})}$, or, $(\mathrm{R}_{\infty})(\mu_{\mathrm{o}})$.

There is a difference because there is a difference between $6.022 = \frac{1}{1.660}$ and 1.6726, plus the measurement error, so I tolerate the value floating left and right on the basis of ensuring that it is self consistent. If there are experimental conditions, you can consider making another basic constant measurement. If you use moles, change it to 1.6726 and try again.

The following is the text, and the following is Maxwell's equations V3.0 Three ways of writing ,

$$
\begin{cases}
1, \left(\nabla\cdot\mathbf{E}\right) = \dfrac{1}{(\varepsilon_{\mathrm{o}})} * (\varphi_{\mathbf{B}}) \ , \\
2, (\nabla\times\mathbf{E}) = -\dfrac{1}{(\varepsilon_{\mathrm{o}})} * (\mathbf{J_B}) - \dfrac{\partial\mathbf{B}}{\partial \mathrm{t}} \ , \\
3, \left(\nabla\cdot\mathbf{B}\right) = -(\mu_{\mathrm{o}}) * (\varphi_{\mathbf{E}}) \ , \\
4, (\nabla\times\mathbf{B}) = (\mu_{\mathrm{o}}) * (\mathbf{J_E}) + \dfrac{1}{(\mathrm{c})^2} * \dfrac{\partial\mathbf{E}}{\partial \mathrm{t}} \ , \\
5, (\mathrm{i}) * (\mathbf{E}) = (\mathrm{c}) * (\mathbf{B}), (\mathrm{i}) * (\mathbf{J_E}) = (\mathrm{c}) * (\mathbf{J_B}) \ , \ (\mathrm{i}) * (\varphi_{\mathbf{E}}) = (\mathrm{c}) * (\varphi_{\mathbf{B}}) \ ,
\end{cases}
$$

$$\begin{cases} 1,\left(\nabla\cdot\mathbf{E}\right) = \dfrac{(\mathrm{i})}{(\varepsilon_o)(\mathrm{c})} * (\varphi_{\mathbf{E}})\ , \\ 2,(\nabla\times\mathbf{E}) = -\dfrac{(\mathrm{i})}{(\varepsilon_o)(\mathrm{c})} * (\mathbf{J_E}) - \dfrac{(\mathrm{i})}{(\mathrm{c})} * \dfrac{\partial\mathbf{E}}{\partial\mathrm{t}}\ , \\ 3,(\nabla\cdot\mathbf{B}) = \dfrac{(\mathrm{i})}{(\varepsilon_o)(\mathrm{c})} * (\varphi_{\mathbf{B}})\ , \\ 4,(\nabla\times\mathbf{B}) = -\dfrac{(\mathrm{i})}{(\varepsilon_o)(\mathrm{c})} * (\mathbf{J_B}) - \dfrac{(\mathrm{i})}{(\mathrm{c})} * \dfrac{\partial\mathbf{B}}{\partial\mathrm{t}}\ , \\ 5,(\mathrm{i}) * (\mathbf{E}) = (\mathrm{c}) * (\mathbf{B}),(\mathrm{i}) * (\mathbf{J_E}) = (\mathrm{c}) * (\mathbf{J_B})\ ,\ (\mathrm{i}) * (\varphi_{\mathbf{E}}) = (\mathrm{c}) * (\varphi_{\mathbf{B}})\ , \end{cases}$$

$$\begin{cases} 1,(\nabla\cdot\mathbf{E}) = \dfrac{1}{(\varepsilon_o)} * (\varphi_{\mathbf{B}})\ , \\ 2,(\nabla\times\mathbf{E}) = -\dfrac{\partial\mathbf{B}}{\partial\mathrm{t}}\ , \\ 3,(\nabla\cdot\mathbf{B}) = 0\ , \\ 4,(\nabla\times\mathbf{B}) = (\mu_o) * (\mathbf{J_E}) + \dfrac{1}{(\mathrm{c})^2} * \dfrac{\partial\mathbf{E}}{\partial\mathrm{t}}\ , \end{cases}$$

Then here is a self consistent group of numerical equations,

$$\begin{cases} 1,\dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{a_0})} = 2\pi(\mathrm{m_e})[\alpha_o](\mathrm{c})\ , \\ 2,\dfrac{(\mathrm{e_o})(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = (\mathrm{c})\ , \\ 3,\dfrac{1}{2}(\mathrm{m_e})[\alpha_o]^2(\mathrm{c})^2 = \dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{2\pi(\mathrm{R_\infty})}\ , \\ 4,\dfrac{(\mathrm{e_o})^2(\mathrm{R_\infty})}{4\pi(\varepsilon_0)(\mathrm{a_0})} = \dfrac{(\mathrm{m_e})(\mathrm{R_\infty})(\mathrm{G_N})}{(\mathrm{K_B})}\ , \\ 5,2\pi(\mu_{\mathrm{B}})(\mathrm{m_e}) = (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N}) * (\mathrm{m_e})(\mathrm{R_\infty})^2(\mathrm{G_N})\ , \\ 6,\dfrac{(\mathrm{m_{atom}})(\mathrm{c})^2}{(\mathrm{r_{atom}})} = \dfrac{[\alpha_o](\mathrm{c})(\mathrm{r_e})(2\pi)^4}{(\mathrm{a_0})}\ , \\ 7,\dfrac{(\mathrm{e_o})}{2(\mathrm{r_{atom}})} = (\mathrm{R_\infty})^3(\mathrm{a_0})^3(2)^3(2\pi)^6\ , \\ 8,\dfrac{(\mathrm{m_e})[\alpha_o]^2(\mathrm{c})^2}{2(\mathrm{r_e})} = (\mathrm{c})2(\mathrm{r_{atom}})(2\pi)^4\ , \\ 9,\dfrac{(\mathrm{m_{atom}})(\mathrm{G_N})}{(\mathrm{a_0})^2} = (2\pi)^3(\mathrm{e_o})\ , \end{cases}$$

So the above two are linked together. We can have the static mass of electrons and protons and the constant of universal gravitation,

$$\begin{cases} 1, (2\pi)^3 (\varphi_{\mathbf{B}})^2 (a_0) = (2\pi)^3 (i)(\varphi_{\mathbf{E}})(m_e)(R_\infty)(r_e) \ , \\ 2, (2\pi)^2 (\varphi_{\mathbf{B}})^2 = (i)(\varphi_{\mathbf{E}})(m_{atom})(4\pi) \ , \\ 3, (2\pi)^3 (\varphi_{\mathbf{B}})(a_0)^2 = (m_{atom})(G_N) \ , \end{cases}$$

So, how to start from Maxwell's equations V3.0 relates to these three equations, I don't know. I only know that when I just put 2 and 3 together, I suddenly felt that this was very strange, but it felt very "complete", so I began to doubt whether there was a system of universal gravitation equations in the middle state. Now these things are combined to push back. I just think they are beautiful, so I shared them. As for the explanation, let's guess. Then these three equations can be extended to,

$$\begin{cases} 4, (i)(\varphi_{\mathbf{E}})(m_{atom}) = (4\pi)(2\pi)^4 (\varphi_{\mathbf{B}})(R_\infty)(r_e)(r_{atom}) \ , \\ 5, (2\pi)(\varphi_{\mathbf{B}})(K_B) = (4\pi)(2\pi)^2 (a_0)^2 (m_e)(R_\infty) \ , \\ 6, (2\pi)^2 (i)(\varphi_{\mathbf{E}})(r_e)(K_B) = (4\pi)(2\pi)^3 (\varphi_{\mathbf{B}})(a_0)^3 \ , \\ 7, (\varphi_{\mathbf{B}})^2 = (4\pi)^2 (2\pi)^2 (\varphi_{\mathbf{B}})(R_\infty)(r_e)(r_{atom}) \ , \\ 8, (i)(\varphi_{\mathbf{E}})(m_e) = (4\pi)^2 (2\pi)^2 (\varphi_{\mathbf{B}})(a_0)(r_{atom}) \ , \\ 9, (2\pi)(\varphi_{\mathbf{B}}) = (4\pi)(2\pi)^2 (a_0)^2 (g_z) \ , \\ 10, (2\pi)(\varphi_{\mathbf{B}})(R_\infty) = (a_0)(g_w)^2 (g_z)^2 \ , \\ 11, (2\pi)(\varphi_{\mathbf{B}})(R_\infty)(g_s) = (a_0)(g_w)^3 \ , \\ 12, (\varphi_{\mathbf{E}})^2 (g_s) + (\varphi_{\mathbf{B}})(g_w)(g_e)^3 = 0 \ , \end{cases}$$

And these are the sum $(e_o)(c) = \frac{(h)}{(K_B)} = \frac{(h)(c)^2}{(\mu_o)} = \frac{(G_N)(m_e)(R_\infty)}{(K_B)} = (g_z)(G_N) = \frac{(e_0)^2 (R_\infty)}{4\pi(\varepsilon_0)(a_0)}$ is equivalent. Then, the constant of universal gravitation can have, $(2\pi)(\varphi_{\mathbf{B}})(G_N) = (4\pi)(2\pi)^2 (i)(\varphi_{\mathbf{E}})(a_0)^2$. Proton static mass and electron static mass and charge can be obtained,

$$\begin{cases} 1, (2\pi)^2 (\varphi_{\mathbf{B}})^2 = (i)(\varphi_{\mathbf{E}})(m_{atom})(4\pi) \ , \\ 2, (i)(\varphi_{\mathbf{E}})(m_e)(R_\infty) = (4\pi)^2 (2\pi)^2 (\varphi_{\mathbf{B}})(R_\infty)(a_0)(r_{atom}) \ , \\ 3, (\varphi_{\mathbf{B}})^2 = (4\pi)^2 (2\pi)^2 (\varphi_{\mathbf{B}})(R_\infty)(r_e)(r_{atom}) \ , \end{cases}$$

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